

# Initial Configuration Document

## ■ Define Initial Configuration & Specifications

- to write R&D plan, initial cost estimate for CD-0
- for CD-0 Mission Need
  - P5 document states

Fermilab's physics vision for this proton source has three main elements:

1. *A neutrino beam for long baseline neutrino oscillation experiments.* A new 2-megawatt proton source with proton energies between 50 and 120 GeV would produce intense neutrino beams, directed toward a large detector located in a distant underground laboratory.
2. *Kaon-and muon-based precision experiments exploiting 8 GeV protons from Fermilab's Recycler, running simultaneously with the neutrino program.* These could include a world-leading muon-to-electron conversion experiment and world-leading rare kaon decay experiments.
3. *A path toward a muon source for a possible future neutrino factory, and, potentially, a muon collider at the Energy Frontier.* This path requires that the new 8 GeV proton source have significant upgrade potential.

These physics objectives define the mission need.

## ■ Will Include:

- Requirements table
- Accelerator and Technology Choices
- Known Issues with those choices

## ■ Does not address

- research plan
- cost estimates
- schedule

# Schedule

- Goal: 1 Oct 08
- Drop Dead Date: 1 Nov 08
  - need it by November collaboration meeting
- Decide by 15 September on:
  - Requirements table based on RnD plan from January 08
- Weekly meetings - Friday 2PM Comitium
  - [projectx\\_icd@fnal.gov](mailto:projectx_icd@fnal.gov) listserv mailing list

Pos. No.	Component	Pos.	Int.	Performance Parameters
1.1	DB Beam-Beam	20	WV	
1.2	Full-on Beam-Beam	10	WV	
1.3	Full-on Beam-Beam	10	WV	
1.4	Full-on Beam-Beam	10	WV	
1.5	DB Beam-Beam	20	WV	
1.6	DB Beam-Beam	20	WV	
1.7	DB Beam-Beam	20	WV	
1.8	DB Beam-Beam	20	WV	
1.9	DB Beam-Beam	20	WV	
1.10	DB Beam-Beam	20	WV	
1.11	DB Beam-Beam	20	WV	
1.12	DB Beam-Beam	20	WV	
1.13	DB Beam-Beam	20	WV	
1.14	DB Beam-Beam	20	WV	
1.15	DB Beam-Beam	20	WV	
1.16	DB Beam-Beam	20	WV	
1.17	DB Beam-Beam	20	WV	
1.18	DB Beam-Beam	20	WV	
1.19	DB Beam-Beam	20	WV	
1.20	DB Beam-Beam	20	WV	
1.21	DB Beam-Beam	20	WV	
1.22	DB Beam-Beam	20	WV	
1.23	DB Beam-Beam	20	WV	
1.24	DB Beam-Beam	20	WV	
1.25	DB Beam-Beam	20	WV	
1.26	DB Beam-Beam	20	WV	
1.27	DB Beam-Beam	20	WV	
1.28	DB Beam-Beam	20	WV	
1.29	DB Beam-Beam	20	WV	
1.30	DB Beam-Beam	20	WV	
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1.95	DB Beam-Beam	20	WV	
1.96	DB Beam-Beam	20	WV	
1.97	DB Beam-Beam	20	WV	
1.98	DB Beam-Beam	20	WV	
1.99	DB Beam-Beam	20	WV	
2.00	DB Beam-Beam	20	WV	